For the operator / for the heating engineer

Operating and Installation Manual

VR 81

Remote control unit for VRC 430

GB

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

Contents

Notes on the documentation 3
1.1 Storage of the documents 3
1.2 Symbols used 3
1.3 Validity of the instructions 3
1.4 Other applicable documents 3
1.5 CE label 4

Operating instructions

1 Appliance features 5

2 Safety 5

3 Instructions for operation 6
3.1 Intended use 6
3.2 Ambient conditions 6
3.3 Care 6
3.4 Factory customer service and manufacturer's guarantee 7
3.5 Recycling and disposal 7

4 Operation 8
4.1 Overview operating and display front 8
4.2 Operating concept 10
4.3 Setting the target room temperature 10
4.4 Setting the operating mode 11
4.5 Setting additional parameters 11
4.6 Changing the target room temperature 11

5 Status and error messages 13

Installation instructions

6 Information on installation and operation 14
6.1 Intended use 14

7 Safety instructions and regulations 14

8 Assembly 15
8.1 Assembly location 15
8.2 Installing the remote control unit 15

9 Electrical installation 16
9.1 Connecting the remote control unit 17

10 Start-up 19
10.1 Activating/exiting the installer level 19
10.2 Setting the parameters 19
10.3 Handover to the operator 20

11 Technical data 20

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

Notes on the documentation

The following notes are intended to help you throughout the entire documentation. Further documents apply in conjunction with this operating and installation manual. We accept no liability for any damage caused by failure to observe these instructions.

1.1 Storage of the documents

Please store this operating and installation manual and all related documents in such a way that they are available whenever required.

1.2 Symbols used

Observe the safety information in these operating and installation instructions when operating and installing the appliance!

Danger!
Immediate risk of serious injury or death!

Danger!
Danger of death by electric shock!

Attention!
Danger of burning and scalding!

Caution!
Potentially dangerous situation for the product and environment!

Note
Useful information and tips.

⇒ **Symbol for a necessary task**

1.3 Validity of the instructions

These operating and installation instructions apply exclusively for VR 81 appliances with the following article numbers:
0020028539, 0020028541, 0020028542

For the operator:
The article number of your remote control unit can be obtained from your expert technician.

1.4 Other applicable documents

Please observe all operating instructions for components of the system. These operating instructions are enclosed with the relevant components of the system and additional devices.

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

1.5 CE label

The CE label confirms that the VR 81 remote control unit complies with the fundamental requirements of the following directives.

- Electromagnetic compatibility directive (Guideline 89/336/EEC)
- Low voltage directive (Guideline 2006/95/EEC)

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

Operating instructions

Note
Have your expert technician explain the operation of the VR 81 remote control unit once the installation is complete. This will prevent involuntary changes to the settings.

Note
Also read the operating manual for the VRC 430 controller. This describes how important parameters of your heating system can be adjusted (e.g. time window). An explanation of technical terms and important functions is provided in alphabetical order at the end of this document.

1 Appliance features

The VR 81 remote control unit is a wired remote control unit for a heating circuit and is used in combination with the VRC 430 controller. Communication with the boiler is achieved via a 2-lead bus line (eBUS).

You can adjust or modify the main functions via the VR 81 remote control unit (operating mode, target room temperature).
Only one VR 81 remote control unit can be used.

Product specifications
- eBUS interface
- Symbol display
- Operation using a single dial based on the "Turn and Click" principle
- The remote control unit can be mounted separately on the wall

2 Safety

The VRT 81 remote control unit must be installed by a recognised expert technician who is also responsible for ensuring that existing standards and regulations are observed.
We accept no liability for any damage caused by failure to observe these instructions.

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

3 Instructions for operation

3.1 Intended use

The VR 81 remote control unit is a state-of-the-art device which has been constructed in accordance with the standard safety regulations.
Even so, inappropriate or non-intended use may adversely affect the appliance and other material assets.

A mixed or unmixed heating circuit can be controlled remotely by the VRC 430 controller in conjunction with a Vaillant boiler and eBUS interface using the VR 81 remote control unit.

Any other use or extended use is considered to be use other than intended. The manufacturer or supplier is not liable for any resulting damage. The owner alone bears any risk.
Intended use also includes observance of the operating and installation instructions and all other documents also have validity.

3.2 Ambient conditions

The VR 81 remote control unit may only be installed in dry rooms.

Observe the following where the "Switch-on room temp." function for the remotely controlled heating circuit is activated at the VRC 430 controller:
- the VR 81 remote control unit must not be covered by furniture, curtains or other objects;
- all radiators in the room where the VR 81 remote control unit is fitted must be fully on.

Your heating engineer will advise you whether the "switch-on room temp." is activated.

3.3 Care

Note
Do not use abrasive materials or cleaning agents that could damage the operator control elements, parts of the casing or display.

⇒ Clean the casing of the VR 81 remote control unit with a damp cloth.

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

3.4 Factory customer service and manufacturer's guarantee

Vaillant Service
To ensure efficient and reliable operation of your boiler it is recommended that regular servicing is carried out by your service provider.

Vaillant Applied System Sales
Vaillant Ltd., Unit D1 Lowfields Business Park, Elland. West Yorkshire. HX5 9DG

Training
Telephone 01634 292370
Fax 01634 292354
email training@vaillant.co.uk

Commercial Service
Telephone 0870 850 3072
Mon - Fri 8.30 - 17.30
Fax 01773 525 946
email aftersales@vaillant.co.uk

Vaillant warranty
We only grant a Vaillant manufacturers warranty if a suitably qualified engineer has installed the system in accordance with Vaillant instructions. The system owner will be granted a warranty in accordance with the Vaillant terms and conditions. All requests for work during the guarantee period must be made to Vaillant Service Solutions (0870 6060 777).

3.5 Recycling and disposal
Your VR 81 remote control unit and its packaging are primarily made of recyclable raw materials.

Appliance
The VR 81 remote control unit and its accessories must not be disposed of in the household waste. Make sure the old appliance and any existing accessories are disposed of properly.

Packaging
Please leave the disposal of the transport packaging to the expert technician company that installed the appliance.

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

4 Operation

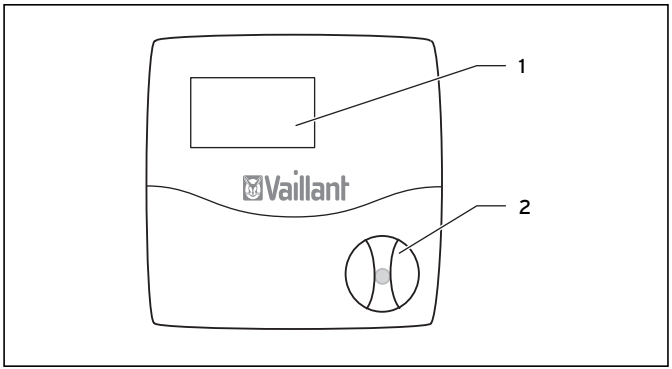

Fig. 4.1 Overview of the equipment

Key
1 Display
2 Dial control (Turn and Click)

4.1 Overview operating and display front

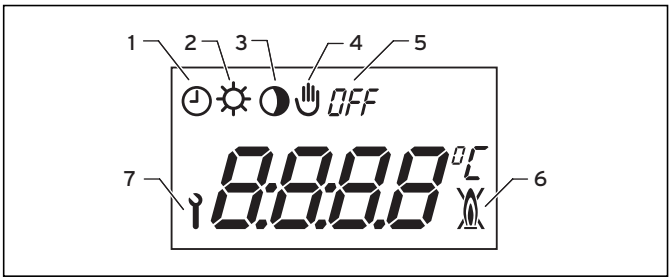

Fig. 4.2 Overview of display

Key
1 Heating circuit, automatic operating mode
2 Control with reference to comfort temperature
3 Control with reference to set-back temperature or frost protection
4 Heating circuit, manual operating mode
5 Heating circuit, operating mode off
6 Appliance fault
7 Maintenance requirement, appliance

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

Fig. 4.3 Basic display

The current room temperature is displayed in the "Basic display".
Additional symbols in the display also show the selected operating mode as well as maintenance and error messages. The meaning of the symbols is explained in Table 4.1.
The operating mode is not displayed if:
- the holiday function has been programmed in the VRC 430 at the operator operation level;
- the floor drying function has been set in the VRC 430 at the expert technician operating level.

Symbol	Meaning
	Heating circuit, automatic operating mode (can be adjusted at the VR 81 remote control unit or the VRC 430 controller)
	Control with reference to comfort temperature within a programmed time window for heating (only displayed with heating circuit, automatic operating mode)
	Control with reference to set-back temperature within a programmed time window for heating (only displayed with heating circuit, automatic operating mode)
	Heating circuit, manual operating mode (can be set at the VR 81 remote control unit or at the VRC 430 controller)
OFF	Heating circuit, operating mode off (can be set at the VR 81 remote control unit or at the VRC 430 controller)
	Appliance fault
	Maintenance requirement, appliance or installer level

Table 4.1 Meaning of symbols

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

4.2 Operating concept

You can operate the VR 81 remote control unit using a dial according to the Vaillant "Turn and Click" operating concept.
Turn dial: change adjustable values
Click dial: confirm value;
select operation level/parameter

There are two operation levels:
- Operator operation level in which the target room temperature and operating mode can be read off, adjusted and changed;
- Installer level which is reserved for expert technicians. Specific appliance parameters can be displayed and adjusted/modified at this operation level.

Parameters that can be modified are indicated by a flashing area in the display.

4.3 Setting the target room temperature

Note
The room target temperature cannot be displayed or modified if the holiday function or floor drying function has been activated at the VRC 430 controller or if the off operating mode has been selected. "--" appears in the display instead of the room target temperature.

The current room temperature and selected operating mode are displayed in the basic display.
⇒ Turn the dial.
The current room temperature is no longer displayed. The target room temperature that has been set lights up and flashes. You can now change the target room temperature.
⇒ Turn the dial to the left or the right to reduce or increase the target room temperature.
The basic display appears again after five seconds.
The modified room set target value is applied.

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

4.4 Setting the operating mode

Note
The operating mode cannot be displayed or modified if the holiday function or floor drying function has been activated at the VRC 430 controller.

The current room temperature and selected operating mode are displayed in the basic display.
⇒ Click the dial once.
The operating mode that has been set lights up and flashes.
⇒ Turn the dial until the required operating mode appears in the display.

Note
The operating mode is represented by a symbol. The meaning of the symbols is explained in Table 4.1.

⇒ Push the dial to confirm the selected operating mode, or wait for five seconds until the basic display appears again. The selected operating mode is applied.

4.5 Setting additional parameters

You can only set the target room temperature and operating mode at the VR 81. All other settings, such as definition of the time window or programming of the holiday function, can only be made at the VRC 430 controller.

4.6 Changing the target room temperature

If you have changed the target room temperature at the operator operation level, the new control value is applied on a provisional basis depending on the operating mode selected.

Manual operating mode
The room temperature is controlled with reference to the new specified value until the operating mode or value is changed.

Automatic operating mode
- If you modify the target room temperature outside a time window:
  the room temperature is controlled with reference to the new value until the next time window starts.

- If you have modified the target room temperature within a time window:
  the room temperature is controlled with reference to the new value until the current time window elapses.

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

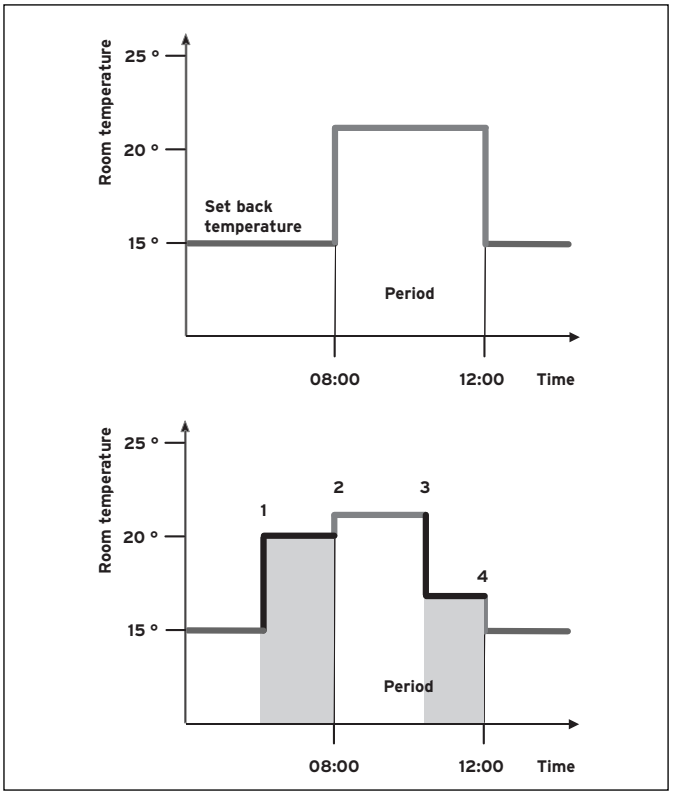

Fig. 4.4 Duration of validity of target value changes (here: Target room temperature)

Fig. 4.4 shows a programmed time window with corresponding target room temperature (21°C).

In the lower diagram, the value of the target room temperature at (**1**) is changed (20°C). The control system uses this target room temperature until the start of the time window.
From this point (**2**) the control system uses the target room temperature of the time window (21°C).
At (**3**) the target room temperature is changed (17°C).
The control system uses this value up to the end of the time window (**4**).
After the time window, the control system uses the night set back temp (15°C).

(You can find more information on time windows in the operating manual of the VRC 430 controller.)

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

5 Status and error messages

The symbol is shown in the display

a) An appliance requires maintenance.

⇒ Contact your expert technician.

b) The display shows the expert technician operation level.

Attention!
Never change the settings. This could impair the function of your heating system.

Note
The display changes to the basic display automatically after five minutes.

The symbol is shown in the display

The appliance has developed a fault.

⇒ Contact your heating engineer.

"Err" appears in the display:

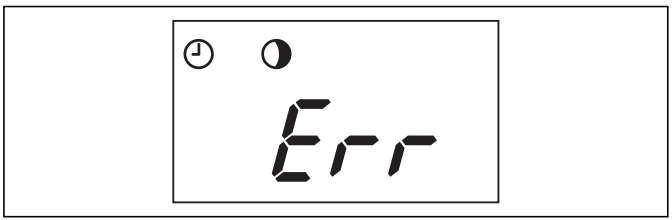

Fig. 5.1 Error message

The VR 81 remote control unit has developed a fault or a communication error has occurred on the eBUS.

⇒ Contact your heating engineer.

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

Installation instructions

6 Information on installation and operation

The installation, electrical connection, settings at the appliance and initial commissioning may only be carried out by a recognised expert technician.

6.1 Intended use

The VR 81 remote control unit is a state-of-the-art device which has been constructed in accordance with the standard safety regulations.
However, in the event of improper use or use not as intended, impairment of the equipment and other items can arise.
A mixed or unmixed heating circuit can be controlled remotely by the VRC 430 controller in conjunction with a Vaillant boiler and eBUS interface using the VR 81 remote control unit.
Communication with the controller is achieved via a 2-lead bus line (eBUS). Only one VR 81 remote control unit can be used.
Any other use or use that goes beyond this defined scope is considered not to be use as intended. The manufacturer or supplier is not liable for any resulting damage. The owner alone bears any risk.
Intended use also includes observance of the Operating and Installation Manual as well as all other applicable documents.

7 Safety instructions and regulations

The VR 81 remote controlled unit must be installed by a recognised expert technician company that is also responsible for ensuring that existing standards and regulations are observed.
We accept no liability for any damage caused by failure to observe these instructions.

Use commercially available cables for the wiring.
- Minimum cross-sections of lines: 0.75 mm^2

The following maximum cable lengths must not be exceeded:
- Bus lines: 300 m

230 V connection lines and bus lines that are more than 10 m in length must be routed separately.
The VR 81 remote control unit may only be installed in dry rooms.

Free terminals at the appliances must not be used as support terminals for additional wiring.

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

All wiring must be in accordance with Building Regulations Part P and BS 7671 (IEE Wiring Regulations), and must be carried out by a suitably qualified person.

8 Assembly

8.1 Assembly location

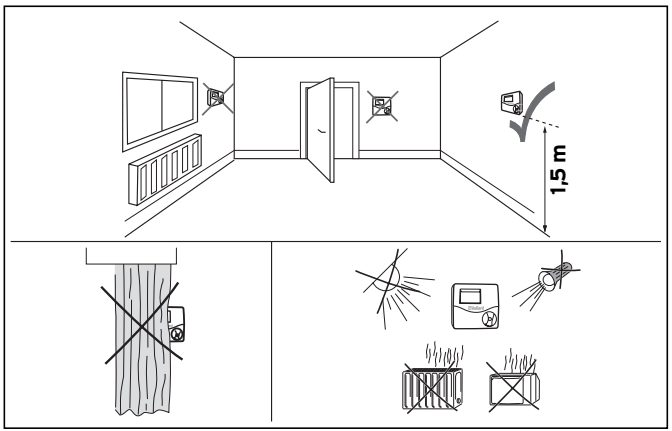

Fig. 8.1 Select assembly location

8.2 Installing the remote control unit

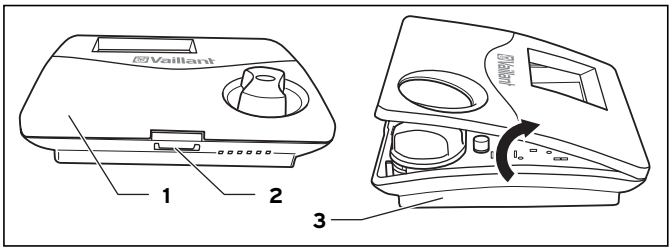

Fig. 8.2 Opening the remote control unit

Key
1 Casing cover
2 Snap arm
3 Casing socket

The connection with the boiler is achieved via a 2-lead bus line (eBUS).

⇒ To open the remote control unit, release the snap arm (**2**) on the underside, fold the casing cover (**1**) up and remove it from the casing socket (**3**).

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

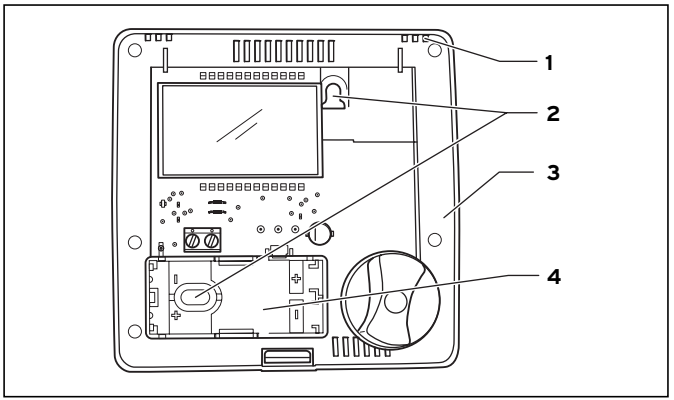

Fig. 8.3 Mounting the remote control unit

Key
1 Snap arm
2 Fixing holes
3 Casing socket
4 Cable duct

⇒ Drill two fixing holes (**2**) with a diameter of 6 mm and insert the supplied anchor plugs.
⇒ Insert the connection cable through the cable duct (**4**).
⇒ Fasten the casing socket (**3**) to the wall using the two screws supplied.
⇒ Connect the connection cable as described in Section 9.
⇒ To close the casing, place the top edge of the casing cover in the snap arms (**1**) fold it down and press on until it engages with the casing socket.

9 Electrical installation

The electrical connection must be established by a recognised expert technician who is also responsible for ensuring that existing standards and guidelines are complied with.

Danger!
Immediate risk of serious injury or death!
Voltage carrying connections!
When carrying out work on the open control cabinet of the appliance there is a danger of potentially fatal electric shock.
Switch off the power supply and prevent it from being unintentionally switched back on before carrying out work on the VR 81 remote control unit and inside the electronic box of the appliance.

If the casing of the VR 81 remote control unit is closed, open it as described in Section 8.2.

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

9.1 Connecting the remote control unit

Communication with the boiler is achieved via a 2-lead bus line (eBUS).
The eBUS can be connected to the VR 81 remote control unit via a branch at any desired location in the eBUS system (see Fig. 9.1).

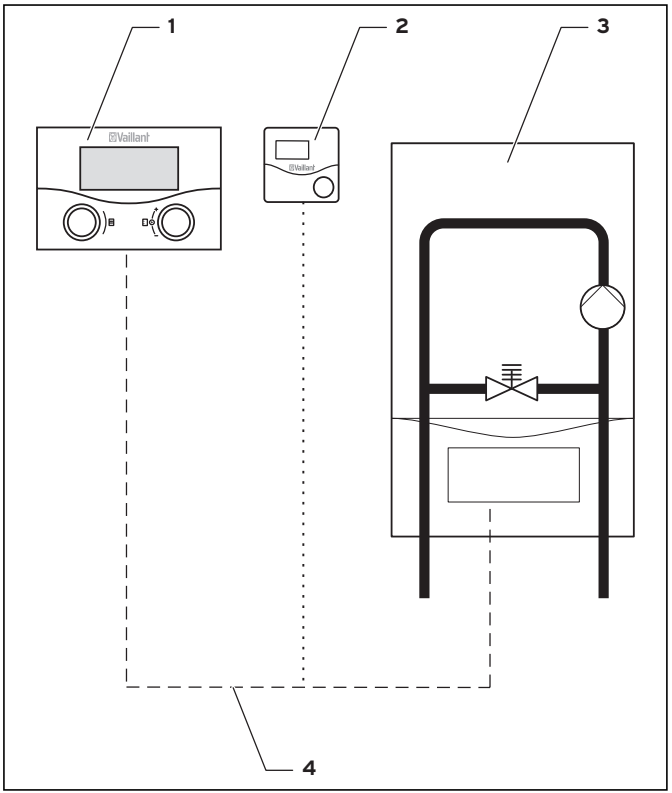

Fig. 9.1 System schematic Establishing connection between eBUS and system

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

Key
1 Controller VRC 430
2 Remote control unit VR 81
3 Appliance
4 eBUS connection (2-lead)

⇒ Carry out the wiring for the connection of the VR 81 remote control unit in accordance with Fig. 9.2.

Note
The cable for the e-BUS connection is not included in the scope of delivery.

When connecting the 2-lead eBUS the lines can be swapped without adversely affecting communication (see Fig. 9.2). Also observe the manual for the appliance.

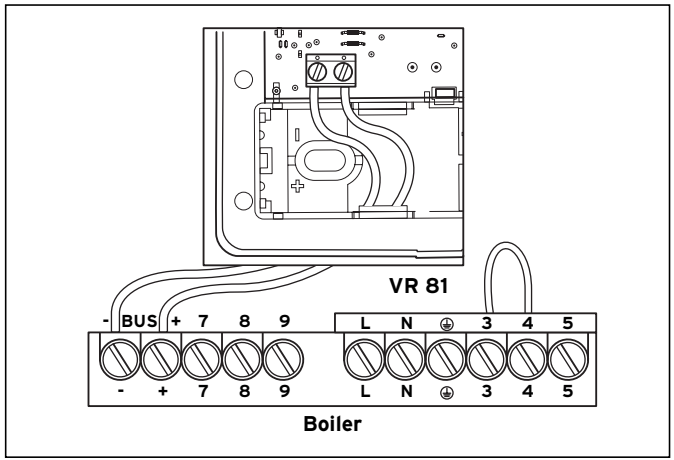

Fig. 9.2 Electrical connection

Note
Free terminals on the appliances must not be used as support terminals for additional wiring.

⇒ To close the casing, place the top edge of the casing cover in the snap arms (**4,** Fig. 8.3) fold it down and press on until it audibly engages with the casing socket.

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

10 Start-up

Start-up must be carried out in accordance with the assignment of the remote control unit to the heating circuit.

☞ **Note**
The VR 81 remote control unit is assigned to the heating circuit at the installer level in the VR 81 remote control unit.

Section 10.1 describes how you can do this.

10.1 Activating/exiting the installer level

⇒ Press the dial for roughly 10 seconds to access the installer level.

The ⚷ symbol is shown in the display.

⇒ Press the dial for five seconds to exit the installer level, or wait for five minutes until the basic display reappears automatically.

10.2 Setting the parameters

Setting the address for the heating circuit
A separate address is assigned to each heating circuit. If the VR 81 remote control unit is used in conjunction with the VRC 430 controller, only the addresses for heating circuit 1 = A1 or heating circuit 2 = A2 can be selected.

The installer level appears in the display.
The address of the remotely controlled heating circuit is displayed and flashes (standard: A1).

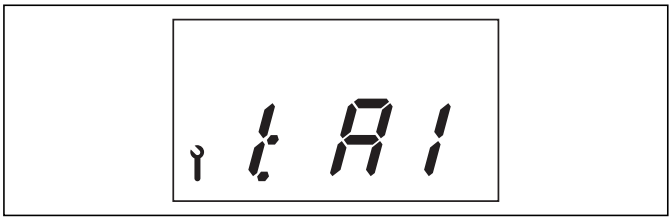

Fig. 10.1 Specifying the address for the heating circuit

⇒ Turn the dial to change to the next address.
The basic display reappears after five minutes if no further input is made. The selected address is used.

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

Adjusting the display for current room temperature at the VR 81

⇒ Press the dial.

The specified offset value flashes in the display (standard: 0.0 °C).

Fig. 10.2 Setting the offset value

⇒ Turn the dial to change the offset value.

The offset value has a range of between -3.0 °C and +3.0 °C and can be adjusted in 0.5 °C increments. The standard value is 0.0 °C.

The basic display reappears after five minutes if no further input is made. The modified parameters are applied.

10.3 Handover to the operator

The operator must be instructed in the handling and functions of the remote control unit.

⇒ Hand manuals and documents for the appliance over to the operator for safe keeping.

⇒ Go through the operating manual with the operator and answer any questions if necessary.

⇒ Make sure that the operator is knows about safety information that must be observed.

11 Technical data

Nomenclature	Unit	Value
Operating voltage U_{max}	V	24
Maximum permissible ambient temperature	°C	50
Current consumption	mA	17
Minimum cross-section of connection lines	mm^2	0.75
Level of protection		IP 20
Protection class for controller		III
Dimensions		
Height	mm	97
Width	mm	97
Depth	mm	27

Table 11.1 Technical data

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk

Vaillant Ltd
Vaillant House ▮ Medway City Estate ▮ Trident Close ▮ Rochester ▮ Kent ME2 4EZ
Telephone 01634 292300 ▮ Fax 01634 290166 ▮ www.vaillant.co.uk ▮ info@vaillant.co.uk

0020044392_00 GB 102007

For latest prices and delivery to your door visit MyTub Ltd - 0845 303 8383 - www.mytub.co.uk - info@mytub.co.uk